Lymantriid Monitoring/Ship Inspection Program

2011 USDA Pest Exclusion Team Members:

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2010 Summary of Activities

Japan: The USDA Pest Exclusion Team (Vic Mastro, Mike Simon and Scott Pfister with APHIS and Steve Munson, USDA Forest Service) met with Canadian (Nancy Kummen, Canadian Food Inspection Agency) and Japanese officials during the week of December 5, 2010 to discuss Japan's proposed mitigation measures that would be used in lieu of ship inspections in several Japanese ports. We visited two of the six ports (Yokohama & Hachinohe) where mitigation techniques were implemented in 2010. After the port visits the team met with Canadian and Japanese representatives at the Ministry of Agriculture, Forestry and Fisheries (MAFF) headquarters in Tokyo to discuss their mitigation proposal.

The U.S. and Canadian representative felt the mitigation measures (monitoring, insecticide applications, insect life stage, and host tree removal) encompassed areas within the port that were too small in area to be effective. We discussed each of these measures in detail for the six Japanese ports and voiced our concerns regarding the effectiveness of such techniques, compared to monitoring and ship inspections that have been proven to be effective mitigation measures to reduce cargo and ship infestations associated with ovipositing female forest defoliators.

We invited MAFF representatives to the Invasives Species Research Forum held in Annapolis, MD during the week of January 10, 2011 to discuss proposed changes in their mitigation techniques. Three representatives from MAFF attended the meeting and met with the USDA team representatives above and Lee Humble, research entomologist, Canadian Forest Service to discuss their proposed changes. The US and Canadian representative felt that the increase in area treated (2 km from the end of the piers) might be effective. However, the analysis of these methods should be scientifically tested and must extend through an outbreak cycle to evaluate the performance of these techniques. The Japanese representatives agreed with our assessments but needed to discuss this with other representatives from MAFF and port officials within the affected ports. In the interim, monitoring populations and ship inspections would continue in 2011.

In 2010, 53 ports were monitored for the presence of Asian gypsy moth (AGM) populations and ship inspections were conducted during the "high risk" period within these ports by several licensed Japanese Inspection companies. In 2011, the program will be expanded to include all ports in Japan where AGM may be present and departing ships will have a North American port destination within a year of the "high risk" period. The "high risk" period was established using data from the 53 ports for all of Japan's Prefectures.

China: Dr Baode Wang with APHIS has been working extensively with the Chinese to develop an Asian gypsy moth monitoring and ship inspection program. In 2010, five Chinese ports (Dalian, Tianjin, Qingdao, Shanghai and Ningbo) were monitored to determine flight periodicity of the insect within the port areas. In 2011, three additional ports (Qinhuangdao, Nanjing and Fuzhou) will be added to the monitoring & ship inspection program. The Chinese will begin to inspect ships in monitored ports during the 2011 "high risk" period destined for North America. China's plant quarantine officials will train the inspectors of the subsidiary company China Certification and Inspection Group (CCIC) located in various ports to implement AGM ship inspections who will issue the phytosanitary certificate.

Russia: Eleven ports in the Russian Far East are included in the Lymantriid monitoring and ship inspection program. This represents the addition of two ports, Kozmino and Petropavlovsk-Kamchatsky. Unlike China and Japan, trained Russian Plant Quarantine officials conduct all ship inspections and issue the phytosanitary permits. The Russian program is more comprehensive than monitoring programs in other nations because adult monitoring, egg mass counts and light traps are techniques used to quantify Lymantriid populations and determine adult dispersal. These survey techniques are deployed in both the port and surrounding forest areas for the three principle Russian Far East ports of Vladivostok, Nakhodka and Vostochnyy. For the other eight ports, only adult monitoring activities are conducted within the port boundaries. Ships bound for North America in any of the 11 ports during the 3 month "high risk" period designated for each port are inspected before departure.

Korea: Eleven ports are monitored in Korea for AGM flight dispersal. Ship inspections are conducted by the Korean Plant Quarantine officials if requested by the shipping line. Vic Mastro and Baode Wang with APHIS have been working with Korean officials to develop research proposals that:

- Characterizing female flight behavior - this effort would include rearing large number of females for release
- Compare the attractiveness of various light sources. Ultimately this tool may aid in the design of female monitoring stations which may also be used as a push-pull lighting strategy for ports
- Test the efficacy of mating disruption and other materials and strategies for suppressing AGM populations in Korea
- Collect, translate and analyze past records of AGM outbreaks in Korea
- Develop a survey design for various light sources in ports associated with egg mass deposition to determine if there are preferred oviposition sites for different light spectrums or structures

All countries listed above annually submit all survey and ship inspection data conducted within country to American and Canadian officials.